

ITEM 411



GLASS CULLET USE FOR UTILITY BEDDING AND BACKFILL

This item shall consist of furnishing and placing recycled container glass (glass cullet) in utility trenches for bedding and backfill. Glass cullet shall consist of broken food and beverage containers. China dishes, ceramics, or plate glass shall be limited to a maximum of 5 percent by mass of glass cullet.

MATERIALS: Glass cullet used for utility bedding and backfill shall be free from vegetation and other objectionable matter and reasonably free from lumps of earth. The glass cullet shall also be free of hazardous products and the contractor is responsible for furnishing the engineer with documentation certifying that the glass cullet complies with Class 3 industrial waste requirements in accordance with 30 TAC 335.507. The source shall be approved by the engineer prior to use.

1-BEDDING: Utility bedding material may comprise of up to 100 percent of glass cullet material. The glass cullet material shall conform to the following grading unless shown in plans.

<u>Sieve Size</u>	<u>Percent Retained on Sieve</u>
5/8 in.	0
3/8 in.	0-10
No. 4	30-50
No. 10	50-75
No. 40	80-90
No. 200	90-100

A certain amount of debris is allowed in the glass cullet. Such debris may include pieces of paper labels, plastic caps, metal caps, and cork. The level of debris allowed in glass cullet when used as utility bedding shall not exceed 5 percent as estimated using the American Geological Institute Visual Method.

Precautions shall be taken for the safety of the construction personnel handling glass cullet. When glass cullet is to be used in combination with other types of materials, they shall be mixed thoroughly until a uniform mix is achieved to the satisfaction of the engineer.

2-BACKFILL:

(a) Initial Backfill: Initial backfill is defined as backfill having a thickness in its compacted state from the surface of bedding to a point one foot (1') above the top of the pipe. Initial backfill shall consist of glass cullet which conforms to the grading requirements of bedding material.

(b) Secondary Backfill: Secondary backfill is defined as backfill from one foot (1') above the top of the pipe to the top of the trench. Glass cullet will not be used for secondary backfill.

CONSTRUCTION METHODS:

1-BEDDING: Where the soil encountered in the utility trench bottom is a quicksand, muck, or other unstable material, the inspector may order its removal to any depth deemed necessary and replacement within uniform layers of glass cullet or other suitable material.

2-BACKFILL: Glass cullet approved by the engineer, conforming to the requirements set above, may be used for initial backfill. The glass cullet shall be placed in the trench and lightly tamped to consolidate and seat the mass against the conduit and earthen surfaces. Backfill material shall be kept at the same elevation on both sides of pipe.

A filter fabric shall be placed between the top of the glass cullet (initial backfill) and the secondary backfill for the entire length and width of the trench. The filter fabric shall conform to the requirements of Texas Department of Transportation Material Specification 6200, Type1.

MEASUREMENT: Glass cullet used for bedding and backfill will be measured for payment by the cubic yard of material in place in accordance with this specification, complete and accepted.

PAYMENT: Payment for glass cullet will be made at the contract unit price bid. Such prices shall include full compensation for removal and disposal of materials below the established subgrade for bedding, backfilling for utility

trenches, disposal of the excess excavated material, placement of filter fabric, and all costs in connection therewith shall be included with this item.

BID ITEM:

Item 411: "Glass Cullet Use for Utility Bedding and Backfill" per cubic yard.